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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/675,930	Applicant(s) DIETL, JOSEF	
	Examiner Farid Homayounmehr	Art Unit 2139	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-8,10,11 and 13-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-8,10,11 and 13-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This action is responsive to communications: application, filed 9/29/2003; amendment filed 10/23/2007.

2. Claims 1-17 have been considered. Claims 2, 9, and 12 cancelled by the applicant.

Response to Arguments

3. With regards to claim 1, applicant argues: "However, neither Slater nor Shioda teach a human-readable print out of an electronic document in a workflow system for use with an external entity that does not exchange electronic documents with the workflow system, as part of a workflow in the workflow system". However, it is not clear which claim limitation is the subject of the applicant's argument. The combination of Slater and Shioda teaches creating a print out of the document within the workflow system, and the electronic document is generated such that it is usable with an external entity that does not exchange electronic documents with the workflow system, as required by the claims.

Applicant further argues that the combination does not teach generation of a control code from a canonical for the purpose of verification. However, as indicated in the

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rejection of claim 6, the combination of Slater and Shioda makes it obvious to generate a control code from a canonical.

Applicant's final argument is: "Finally, neither Slater nor Shioda appear to contemplate a workflow system that handles a workflow that includes within it a step performed by an external entity that does not exchange electronic documents with the workflow system". However, such limitation is not found in claim 1, as there is no limitation that requires performing a step by an external entity.

With regards to claim 8, applicant argues that claim 8 receives a print out of the document and performs verification, and in that regard it is distinguished from teachings of Slater and Shioda. However, as indicated in the claim, the step of verification and authentication of the printout is performed after the printout is converted to canonical from (electronic form), and then verified by the system. Therefore, the verification is performed using electronic systems. The combination of Slater and Shioda teaches generation of the print out of the electronic document, as indicated in the rejections. The combination also teaches verification of the document. Therefore the combination teach verification of the printout, as required by claim 8. Note that conversion of the printout to electronic form, such as scanning the document, was well-known in the art at the time of invention (see rejection of claim 8).

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 1, 10 and 11 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Said claims include the limitation: "Converting the text content in an unambiguous reading order into canonical form". The Specification does not include converting the text content in an unambiguous reading order into canonical form. The only section of Specification related to unambiguous reading order relates to creation of the control codes, and not the text content. In addition, the Specification does not specify what is meant by unambiguous reading order.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1, 10 and 11 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Said claims include the limitation:

“Converting the text content in an unambiguous reading order into canonical form”. The specification does not specify what is meant by an unambiguous reading order.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1, 3-8, 10, 11, 13-17 rejected under 35 U.S.C. 103(a) as being unpatentable over Slater et. al (US Patent Application Publication No. 2002/0069179, filed June 6, 2001), and further in view of Shioda (US Patent No. 6,634,559, filed March 29, 2001).

9.1. As per claim 1, Slater is directed to a method, comprising: in a workflow system as part of a workflow in the workflow system: generating an electronic document in a workflow system (parag. 31 shows generation of an electronic document, and parag. 33 indicates that the invention can be used in applications such as business licenses, which is an example of a workflow system as identified by applicant's specification), for use with an external entity that does not exchange electronic documents with the workflow system (Shioda teaches

a data sheet that can be carried by the user (abstract). The data sheet includes a printout of the encoded entire electronic document on paper (col. 2 lines 22-63). The data sheet, which includes the entire document on a printout (not stored electronically), is distributed to other systems by the user (col. 3 lines 5-35). Note that a decoding unit decodes the encoded entire document to obtain the entire document back), the electronic document having text content (documents exemplified by Slater include legal documents, which contain text), the electronic document further having a human-readable document appearance, representing the text content (Slater parag 31 shows that the document is readable by both machine and human, therefore it has a content and appearance. Also see Fig. 2B and associated text); attaching one or more approval codes to the electronic document, such that when the document is printed, each approval code generates an approval mark (per Slater parag. 30, the signer of the document examines it (approve) and signs it (approval code), which is verifiable. As mentioned above, Slater teaches printing the document. Also per teachings of Shioda, the entire document is printed on the paper in the encoded form and also the image, therefore the approval codes are also printed);

Converting the text content in an unambiguous reading order into canonical form (conversion to canonical forms before creating digital signatures were well known in art. Slater suggests use of XML schema to embed digital signatures. One of the features of XML is the capability of converting the XML document to its canonical form according to W3C Canonical XML 1.0 recommendation (as a reference see "Canonical XML Version 1.0" and "Core XML Standards", both of which are attached to this office action). It

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would have been obvious to a person skilled in art to convert the document to its canonical form and encrypt the canonical form to generate a digital signature. The motivation to do so is faster and more efficient encryption performed on canonical documents, as described, for example, in section 1.2 of "Canonical XML Version 1.0". Also conversion as taught by W3C Canonical XML 1.0 is deemed in an unambiguous reading order, as there is no ambiguity introduced in the method described in the cited document.)

generating control codes for the electronic document as part of a workflow in the workflow system (control codes are the signature blocks added to document as described in parag. 29-32, which contain the signatures. Note that the digital signatures are encrypted (see Slater parag. 13, indicating that the digital signature is decrypted), and therefore the encrypted digital signature creates a control code for verification of the digital signature),

the control codes, including one or more first control codes that each correspond to a respective approval code (each digital signature is encrypted and saved in the signature block), and one or more second control codes generated from the canonical form of the text content (Slater teaches signing the entire document, For example by a notary or recorder after primary signers sign the document. The signature by notary or recorder applies to the content of the document, which as described above, includes a canonically converted text), and creating a print out, the print out including the document appearance, the respective approval mark corresponding to each approval

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code, the one or more first control codes, and the one or more second control codes (Slater parag. 64 and also 84. Also note that Shioda teaches printing the entire document), the one or more first control codes being usable to authenticate the one or more respective approval marks (Slater parag. 31-34 shows verification of each signature, thereby verification of the signature associated with first control codes authenticates the approval marks), and the one or more second control codes being usable to validate the text content of the printout (Slater parag. 31-34 shows verification of each signature, thereby verification of the signature associated with second control codes validates the text, as the signature was associated with the text); and then sending the printout to the external entity (making a printout of a digital signature and distributing them to external entities (Slater teaches distribution of the electronic document. Printing a digital document, and distributing the paper document (such as mailing a document) was inherently known in the art at the time of invention.

Slater and Shioda are combined to teach the claim limitation as described above, as it would have been obvious to the one skilled in art to combine the inventions. This is because Slater and Shioda are analogous arts as they are directed to management and distribution of electronic documents. Shioda teaches a data sheet, by which an electronic can be carried and distributed by the user. Therefore, the one skilled in art would be motivated by Shioda to carry and distribute Slater's electronic document.

9.2. Claim 2 cancelled by the applicant

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9.3. As per claim 3, Slater is directed to the method of claim 2, wherein generating the approval mark comprises:

generating a digital signature as the approval code (see response to claim 1); and
generating a signature image associated with the approval code (when the signature is printed, the image of the signature is produced).

9.4. As per claim 4, Slater is directed to the method of claim 1, wherein generating one or more second control codes comprises: generating a single second control code for all of the text content (per paragraph 32, the recorder signature and notary signature may be omitted. Per parag 44, one or more persons may sign it. Therefore, it is possible only the notary or only the recorder sign the document, therefore creating a single signature (control code) for the entire document, which results in a single signature (control code) is all the text content).

9.5. As per claim 5, Slater is directed to the method of claim 1, wherein the print out has two or more physical pages and generating the one or more second control codes comprises: generating one or more second control codes, each second control code corresponding to the text content on a page of the one or more physical pages (placing each digital signature in a separate page is a design choice that is obvious to a person skilled in art. Also, printing documents amounting to two or more pages was widely practiced and well-known in the art at the time of invention).

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9.6. As per claim 6, Slater is directed to the method of claim 1, wherein generating the one or more second control codes comprises: encrypting the canonical form with a private key, the private key having an associated public key certificate for retrieving a public key associated with the private key (conversion to canonical forms before creating digital signatures were well known in art. Slater suggests use of XML schema to embed digital signatures. One of the features of XML is the capability of converting the XML document to its canonical form according to W3C Canonical XML 1.0 recommendation (as a reference see “Canonical XML Version 1.0” and “Core XML Standards”, both of which are attached to this office action). It would have been obvious to a person skilled in art to convert the document to its canonical form and encrypt the canonical form to generate a digital signature. The motivation to do so is faster and more efficient encryption performed on canonical documents, as described, for example, in section 1.2 of “Canonical XML Version 1.0”. Use of private and public keys to create and verify digital signatures was well known and widely practiced at the time of invention).

9.7. As per claim 7, Slater is directed to the method of claim 1, further comprising: receiving the print out at the workflow system from an external entity, the print out having a subsequently added human signature; validating the received print out within the workflow system (validation of signatures on a paper is known in the prior art as suggested in parag. 6), and then continuing in the workflow system. Examiner takes the Official Notice that receiving documents in the printed form, scanning documents to

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create an electronic form, and processing the electronic document in a workflow system, such as the one taught by the combination of Slater and Shioda, was widely practiced, and well-known at the time of invention. Therefore, it would have been obvious to the one skilled in art to receive a document in printed form from an external entity, and using the workflow system to validate the document. Note that as described in rejection of claim 1, the combination of Slater and Shioda teaches creating a printout of digital document with embedded digital signatures. The printed form is human readable. Therefore, the reverse process, that is converting the printout to electronic form, and performing the verification, would have been obvious to the one skilled in art.

9.8. Limitations of claim 8 are directed to receiving and verifying the documents generated in claims 1-7 above. Figs. 4-6 and associated text describe receiving and validating the digital documents. Note also that as described in rejection of claim 7, Examiner takes the Official Notice that receiving documents in the printed form, scanning documents to create an electronic form, and processing the electronic document in a workflow system, such as the one taught by the combination of Slater and Shioda, was widely practiced, and well-known at the time of invention. Therefore, it would have been obvious to the one skilled in art to receive a document in printed form from an external entity, and using the workflow system to validate the document. Note that as described in rejection of claim 1, the combination of Slater and Shioda teaches creating a printout of digital document with embedded digital signatures. The printed form is human readable. Therefore, the reverse process, that is converting the printout

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to electronic form, and performing the verification, would have been obvious to the one skilled in art.

9.9. Limitations of claims 10, 11, 13-17 are substantially the same as limitations of claims 1, 3-7 above.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Farid Homayounmehr whose telephone number is 571 272 3739. The examiner can normally be reached on 9 hrs Mon-Fri, off Monday biweekly.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kristine Kincaid can be reached on (571) 272-4063. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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/Christian LaForgia/

Primary Examiner, Art Unit 2139

Farid Homayounmehr

Examiner

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